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EDUCATIONAL AND OCCUPATIONAL EXPECTATIONS OF LEGALLY BLIND ONTARIO HIGH SCHOOL STUDENTS

by

BRENDA AGNES CHRISTA BUSH

A THESIS

SUBMITTED TO THE FACULTY OF GRADUATE STUDIES AND RESEARCH

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"Nothing stamps a man
so much as his occupation"
Goblot 1961

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Leslie Hayduk
(Supervisor)

B. M

E.E. Fox

Date: September 13, 1985

DEDICATION

To Lee Beacon, Agnes and Bertram Bush,

who encouraged me with their love to pursue high goals,

even in the face of adversity.

--ABSTRACT--

The educational and occupational expectations of 105 legally blind Ontario high school students are compared to the expectations of 5500 Ontario sighted students. Grades 10 and 12 were selected from Blishen and Porter's (1971) raw data in order to compare sighted to visually impaired high school students.

Blind students, like their sighted counterparts, modified their aspirations into more realistic expectations. There was no significant differences between blind and sighted students with respect to mean educational expectations. However, the sighted students had higher occupational expectations.

No interaction was found between blindness and several other independent variables using either a combined sample of legally blind and sighted students (1=blind and 2=sighted), or using the legally blind sample only (no vision to borderline legally blind). Problems of multicollinearity prevented some interaction testing.

A negative relationship between degree of vision and levels of educational and occupational expectations appeared within the blind sample. Having no or very low vision was associated with higher educational and occupational expectations.

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CHAPTER 1

INTRODUCTION AND LITERATURE REVIEW

This thesis examines the educational and occupational expectations of blind and visually impaired high school students. Traditional approaches to stratification examine the effects of social, economic and academic factors on educational and occupational expectations. Expectations in turn, are thought to determine ultimate occupational attainment. But how does a physical characteristic, such as blindness, fit in with the traditional determinants of status attainment? Do the same social, economic and academic factors that weigh so heavily on sighted students also affect blind students? Is a visual impairment so devestating that it supplants the traditional determinants of social stratification, or is it merely an extra burden?

It is surprising that disabled persons have escaped investigation in the status attainment literature. The United Nations International Year of Disabled Persons in 1981 popularized the phrase: "one in seven people are disabled". If this phrase holds true then disabled people represent a substantial minority group. Blindness is one of the more severe disabilities because it affects every part of one's life, particularly employment. Concerning the blind, Strauss points out that, "They must certainly feel

some common fate and some sense of isolation from the sighted world, denied by their handicap from sharing many forms of normal experience and from a major mode of stimulation and communication" (1968:223). Blindness must certainly play a dominant role as one formulates vocational goals. The lack of research on the blind stands in stark contrast to the large number of studies investigating the determinants of status attainment using sighted respondents.

During the 1960's and 1970's researchers studying status attainment sought to discover who strives for the prestigious positions in society. American scholars, such as Duncan (1972), Haller (1974) and Sewell (1969) argued that socioeconomic background is a key determinant of occupational attainment. Educational and occupational expectations were also seen as key mechanisms translating socioeconomic status into occupational achievements. The distinction between aspirations and expectations was made by some researchers who found expectations to be a better predictor of attainment. Canadian researchers, such as Anisef (1974), Breton (1972) and Porter, Porter and Blishen (1982) stressed the impact of the educational system. They found certain individuals received better education than others. This resulted in unequal job opportunities. Occupational stratification does not arise spontaneously as the young join the labour force. It begins in the educational system and continues on into the labour force.

A Critique of Status Attainment Theory

Colclough and Horan (1983) identified three fundamental components of the status attainment paradigm; (1) occupations are scaled along a continuum (2) a common opportunity structure exists for all individuals and (3) a competitive market process matches individuals who have the appropriate background and education to the manpower needs of society. Recent research has questioned the second and third components (Alexander & Eckland 1974; Garrison 1979; Rosen & Aneshensel 1978) but the first component (a hierarchical status continuum) seems well supported in the literature (Blishen & Carroll 1978; Boyd 1982; Guppy & Siltanen 1977; Haller & Miller 1971; Pineo, Porter & McRoberts 1977). There remains some disagreement as to the exact scaling or ordering of specific occupations despite a general concensus that a status continuum exists.

The notion of a common opportunity structure seemed reasonable when white American urban males were used in the early years of status attainment research. However, this component came under scrutiny as more subgroups were included in the status attainment models (Alexander & Eckland 1974; Calliste 1984; O'Neill 1981).

Eventually a proliferation of social and structural factors were included as intervening between socioeconomic status (SES) and expectations (Breton 1972; Looker 1982; Porter, Porter & Blishen 1982). In an attempt to reduce prediction error, proponents of the Wisconsin model

(Featherman 1972; Haller et al 1974; Hauser, Tsai & Sewell 1983; Jencks, Crouse & Meuser 1983; Kandel & Lesser 1969) added more social psychological variables to the model and continued refining measurement techniques. The underlying presumption was that status attainment had to be attributable to individual characteristics if a common opportunity structure existed.

The validity of the second component in the status attainment paradigm was seriously questioned as studies pointed to repeated examples of uneven minority group distributions within various sectors of the labour force. To accept the existence of a common opportunity structure despite minority group differences would demand a premise that lesser achieving groups share some inherent deficiency that causes their lower occupational status. An alternate research approach was to branch away from the apparently unsuitable Blau-Duncan (1967) and Wisconsin models, which place the onus of attainment on the individual, and consider structural as well as individual factors that might affect status attainment.

Although Schiller (1970) questioned the existence of a common opportunity structure as early as 1970, the specific structural barriers were not clearly identified for a few years thereafter. A number of researchers have now identified specific inequalities within the educational system as barriers hindering status attainment (Anisef 1974 and 1980; Breton 1970 and 1972; Cicourel 1963; Edington

1970; Nelson 1972; Porter, Porter & Blishen 1982; Sewell 1971; Turrittin, Anisef & MacKinnon 1983).

The third component holds that a competitive market matches individual background and educational traits to the manpower needs of society. The labour market is indeed competitive but not necessarily efficient at matching individuals' educational accomplishments to society's manpower needs. The degree to which the market is competitive depends on societal tolerance toward individual or group mobility. Social intolerance is exercised through discrimination, whereby the dominant social group denies individuals and groups dissimilar to themselves access to both high quality education and employment. This inequality of opportunity results in biases in the process of matching individual backgrounds to labour force needs.

Competition for potentially better employment starts in the educational system where students vie for positions in the more prestigious schools. Discrimination against minority group members also starts in the educational system where students are often stratified according to a variety of achieved and ascribed characteristics. Turrittin, Anisef and MacKinnon (1983) state that, "schools reproduce the structure of inequality by not going beyond meeting labour force requirements to aggressively develop talent, particularly by expanding the educational and occupational horizons of women" (1983:395) or disadvantaged groups in general.

Repeated findings of uneven minority group distributions among various labour force sectors have initiated the most serious questioning of the status attainment paradigm. Researchers have attempted to account for discrepancies between status attainment theory and findings. The most evident discrepancy, an uneven minority group distribution within the workplace, has elicited three explanations for the inconsistency between status attainment theory and empirical findings. First, actual abilities are indeed different and workers are properly matched to the market needs. This explanation attributes success or failure to the individual. Second, individuals' desires vary in the degree to which they are upwardly mobile. This explanation also focuses on the individual, but suggests people are satisfied where they are thus eliminating the question of discrimination. Third and more realistically, individual desires vary in the degree of upward mobility, but for those with both high vocational goals and disadvantageous qualities, structural barriers exist which prevent goal attainment (e.g. stereotyping results in social intolerance toward minority groups). What are the disadvantages to status attainment and how do the dominant variables affect future expectations and attainment?

Empirical Findings

The poor, non-white, female, rural resident and in Canada the francophone are consistently identified as holding lower occupational positions. These groups are disadvantaged with respect to level of educational attainment, but are stratified to an even greater extent in the labour force as they fill jobs in the lower echelons on the occupational continuum.

A closer look at the causal network shows that not all factors affect educational expectations to the same degree. The same is true for occupational expectations where some determinants are more influential than others. "Of all the factors studied, gender, SES and mental ability (intelligence) have been found to be most consistently and clearly associated with level of aspirations" (O'Neill 1981:50)[1]. In particular, males were found to expect and attain higher educational and occupational levels (Alexander & Eckland 1974; Garrison 1979; Pavalko & Bishop 1966; Porter, Porter & Blishen 1982; Rosen & Aneshensel 1978; Turrittin, Anisef & MacKinnon 1983). The literature supports gender differences not only in the educational and occupational goal attainment, but also throughout the process one must go through in order to attain those goals, i.e. the required educational route (Calliste 1982; Garrison 1979; Turrittin, Anisef & MacKinnon 1983).

---

[1] O'Neill is referring here to both real and ideal orientations, i.e. expectations and aspirations.

As a group, females score about the same as males on IQ, but higher on school performance. However, they end up behind males in ultimate educational attainment. Females have higher educational expectations than males only when strong significant other influences, such as parents or friends, are present (Turrittin, Anisef, MacKinnon 1983). Males are not subjected to the same negative psychological influences as females, such as sex sterotyping, and depend more heavily on school performance when formulating educational goals.

Sex stereotyping manifests itself even more profoundly in occupational expectations. Unlike boys, girls are simply not taught that they can become "anything they want" and hence they display a narrower and stereotypical set of occupational goals. Boys get more positive reinforcement when they strive for high education and occupational positions.

The literature abounds with evidence supporting SES, sometimes called social class, as a predictor of expectations and attainment. Children of middle to upper class families have a greater chance at entering and completing university, but even when social class is controlled, males come out ahead of females (Alexander & Eckland 1974; Gilbert & McRoberts 1977; Porter, Porter & Blishen 1982). Porter, Porter & Blishen (1982) observe that upper class females do not expect the same high professional status jobs as their male counterparts, although

proportionately more females in lower and middle class families strive for middle class status. This indicates that males tend to replicate the occupational distribution by remaining within their original social class, whereas females tend to gravitate toward the middle status occupations.

Self-concept of academic ability has been identified as a positive predictor of educational attainment. "Success, whether it be on the basis of privileged social origins, the prestige stream in high school (an academic program), or good grades, enhances the feeling of being able to succeed in further educational endeavors." (Turrittin, Anisef & MacKinnon 1983:407). This feeling of confidence is a sign of high self-concept of academic ability. Both males and females benefit from a high self-concept of academic ability although females are somewhat more affected by it when other influences are controlled.

Regional differences in status attainment are often tied to socioeconomic status. Rural areas have historically suffered heavier economic depression than the more economically diverse cities. The manual nature of rural occupations places rural residents low on the scales of income, education and occupational prestige and hence lower on socioeconomic status. Rural students have lower expectations than their urban counterparts (Edington 1970; O'Neill 1983; Porter, Porter & Blishen 1982; Sewell 1963; Turrittin, Anisef & MacKinnon 1983). Urban students enjoy

greater exposure to a full range of educational, occupational and financial support opportunities.

Disadvantaged Twice

The research reported up to this point has emphasized how specific variables influence expectations either alone or with other variables controlled. Many studies have included more than one of the disadvantageous characteristics, but the compound effects of possessing multiple disadvantage have rarely been closely examined. Breton (1972) discusses two possible outcomes of having more than one disadvantage, either expectations are cumulatively lowered or, depending on the particular combination of disadvantages, expectations are unrealistically magnified. The latter result may be an overcompensation by an individual who denies "his/her background to combat a negative sense of worth and capabilities" (Breton 1972:397).

Hyman, Stokes and Strauss (1973) did one of the few studies examing the cummulative effects of a double disadvantage[2]. They surveyed black and white totally blind children and their sighted siblings from white and blue collar families in New York state. The following tables present the separate comparisons of race and social class with blindness on future vocation. A small sample size prevented them from simultaneously assessing the effects of

---

[2]The present study differs from Hyman, Stokes and Strauss (1979) in that blind Ontario high school students are examined and then compared to sighted Ontario high school students with respect to all levels of both educational and occupational expectations

both race and social class on future occupation.

Table 1.1

Percent of Blind Children Reporting High Occupational Aspirations and Expectations by Race

	Aspiration	Expectation	N
White Children	76	64	80
Black Children	73	55	22

Table 1.2

Percent of Children Reporting High Occupational Aspirations and Expectations by Social Class

	Aspiration	Expectation	N
Blind Children			
White Collar	77	61	13
Blue Collar	75	61	89
Sighted Siblings			
White Collar	87	75	8
Blue Collar	66	48	42

Table 1.1 shows that race has no effect on blind childrens' vocational aspirations and only a small effect on vocational expectations. Table 1.2 shows that sighted students display quite a substantial class difference in expectations, with more white collar children striving towards professional occupations. However, blind children show no class differences in occupational expectations.

Social class does not affect blind children here, yet it does their sighted siblings. The difference in expectations between blind and sighted is as anticipated for white collar but not blue collar children. Being sighted appears to be an advantage if one is from a white collar family, but disadvantageous for children of blue collar families.

Hyman, Stokes and Strauss conclude that "an unanticipated consequence of their disability is that the burdens of class and race[3] that weigh so heavily upon their sighted aspirants to good careers have been lightened for them."(1973:416) Hyman, Stokes and Strauss offer no reasons for these unexpected results.

Could Breton's suggestion of an overcompensation due to a double disadvantage be true, in which case having a visual impairment and one of the other disadvantages would result in unexpectedly high future goals, or are visually impaired students subject to the same negative influences as their sighted contemporaries where future expectations are progressively lowered as they possess more disadvantages? In short, how and to what extent does blindness affect educational and occupational expectations? Some specific answers to this general question are sought by testing three hypotheses.

---

[3]A racial breakdown of this particular table was not reported in this article.

Hypotheses

1. The effect of blindness on expectations is similar to that of the other disadvantages in that blind students have low educational and occupational expectations.
2. The effect of having two disadvantages, blindness with one of the other disadvantages produces cumulative effects.
3. The extent to which blindness influences expectations varies according to degree of vision in that students with no or very low vision have low educational and occupational expectations.

CHAPTER 2

METHODOLOGY

The Blind Population and Sample

Two samples of Ontario high school students were used in this thesis. Blishen and Porter (1971) surveyed sighted students about their future plans. These data are compared to the current sample of visually impaired students. All respondents in this study are registered as legally blind with the Canadian National Institute for the Blind (C.N.I.B.). The definition of legal blindness is 1) a visual field of 20 degrees or less where 80 degrees is the normal field and/or 2) having less than 20/200 vision in the best eye after correction, that is with the aid of eye glasses or contact lenses, where 20/20 is perfect vision. Someone with 20/200 vision standing twenty feet away from an object will see it as clearly as someone with 20/20 vision standing 200 feet away. Between 15% and 20% of the blind have no vision or light perception only.

In 1982, .16% of the Canadian population was registered as legally blind. Of the 39,151 blind, 18,324 were males and 20,827 were females. The 65 years and over age group had the greatest number of legally blind with 21,689. The 5 years and under age group had the least number of legally blind persons with only 471. Generally speaking, the number of

people registered with C.N.I.B. rises with age as risk of blindness increases over a lifetime. The longevity of females accounts for the preponderance of blind females.

In 1982, 480 male and 364 female Canadians between the ages of 15 and 19 were registered with C.N.I.B. They accounted for .04% of the total Canadian population in the same age group. Of these, 165 males and 148 females resided in Ontario. They represented .038% of Ontario's 15 to 19 year old population of 808,870. On the assumption that the number of blind students would be relatively constant, we tried to sample 300 15 to 19 year old Ontario students.

Data Collection

The C.N.I.B. Ontario regional office agreed to distribute the prepared questionnaires. The first 300 names on their registry were selected and large print questionnaires were mailed in February 1984. No follow-up letter was possible as C.N.I.B. is obliged to keep client addresses confidential and only one mailing was agreed on. The last completed questionnaire was received in October 1984.

One hundred and forty-four of 300 questionnaires were returned. Twenty-two of those were eliminated because the respondents had multiple handicaps which would have confounded the analysis in unmanageable ways. An additional 17 were eliminated because they were returned with too little data or did not meet sample requirements, e.g. no longer in school. One hundred and five questionnaires were

included in the final analyses.

The Measured Variables

The key variables measured were gender, degree of vision, place of residence, school performance, self-concept of academic ability, friends' educational plans, socioeconomic status, levels of educational aspirations and expectations, levels of occupationl aspirations and expectations. See questionnaire attached as Appendix A.

Table 2.1

Variable Documentation

Name	Variable Description	Question #
VISION	Degree of Vision	9
REGION	Place of residence	4
SP	School Performance	21
SCAA	Self-Concept of Academic Ability	33-38
FEP	Friends' Educational Plans	22
SES	Socioeconomic Status	16
LEE	Level of Educational Expectations	24
LEA	Level of Educational Aspirations	23
LOE	Level of Occupational Expectation	34
LOA	Level of Occupational Aspirations	33

Degree of vision was measured on a scale of 0 to 10; 0 being no vision and 10 being borderline legally blind and having only a slight vision loss. The 0 to 10 point scale is

understood among blind people. It is used for classifying competitors in althletic meets where there are three categories: A- no vision or light perception only, B- 2 to 5 and C- 6 to 10.

Place of residence was taken from O'Neill (1981). Students classified the place where they lived as either rural farm, rural non-farm, village, town or city. Their classifications were checked for consistency with the next question, "What city, town or county do you live in?". So, if someone lived in London, Ontario, they would have checked "city".

Mental ability is often measured via some form of IQ test or school marks (Alexander & Eckland 1974; Breton 1972; O'Neill 1981; Pavalko & Bishop 1966; Porter, Porter & Blishen 1982; Rosen & Aneshensel 1978; Sewell, Haller & Portes 1969). Since we had no access to school records, a self report of school performance was the only available ability measure (c. f. Calliste 1982; Looker & Pineo 1983; MacKinnon & Anisef 1979; Porter, Porter & Blishen 1982; Rosen & Aneshensel 1978). Students were asked for both their average mark last year and their program of study; 5 year, 4 year or other.

The measure of self-concept of academic ability was adapted from six of Brookover's (1962) original eight questions. See #27 to #32 in the questionnaire attached as Appendix A. Two of Brookover's (1962) questions were not asked here as they did not apply to the respondents.

Responses were recoded so that as score increased so did self-concept of academic ability (SCAA). Responses to each of the six questions were then added to produce a SCAA scale ranging from six to thirty. The reliability of these six items produced an alpha of .8671 using 101 of 105 cases. Four cases had missing values on at least one of the six questions and were deleted from the reliability analysis.

There are two popular methods for measuring significant others' influence. One method is to provide separate questionnaires to the student and to their parents and asking both the student and parent about their expectations for the student. (Looker & Pineo 1983; Porter, Porter & Blishen 1982; Rosen & Aneshensel 1978). A second method is to ask each respondent about their friends' future plans (Alexander & Eckland 1974; O'Neill 1981; Pavalko & Bishop 1966; Sewell, Haller & Portes 1969). Both parents and friends influence a student's vocational plans (Blishen, Porter & Porter 1982; Brookover 1975; O'Neill 1981; Sewell Haller & Portes 1969). Brookover (1975) reports congruency between students' perception of their parents' and friends' expectations for them. The second method was used here, hence the variable was called friends' educational plans (FEP). The question used to measure friends' educational plans was taken from O'Neill (1981), "How many of your friends plan to continue their education after high school?"[4]

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[4]It is assumed that most respondents were referring to their sighted friends here as only 30% had ever attended a school

Father's occupation was used to measure socioeconomic status. Father's occupation, question #16, was adapted from Porter, Porter and Blishen (1982). Occupations were coded according to the revised socioeconomic index (SEI) of occupations in Canada by Blishen and McRoberts (1976) which is based on the 1971 Canadian census enumeration. The SEI is a continuous scale that assigns Canadian occupations a value produced from a regression equation according to education, income and prestige. SEI values range from 14.39-75.28.

Occupations were coded to the second decimal point, e.g. electrical engineers=70.74. In this sample father's occupational scale ranged from 19.32-75.28 with a mean of 44.2.

Father's occupational status was used to measure SES for a number of reasons. Only 60% of the mothers in this sample were working outside the home versus 95% of the fathers. The regression equation for the SEI of Canadian occupations is based on male education, income and occupational prestige. The literature reports inconsistencies between male and female income and education given the same occupation (Blishen and Carroll 1978; Guppy and Siltanen 1977). Hence, including mother's occupation in the SES measure would be methodologically questionable with respect to measurement reliablity. Father's occupational status is a popular tool for measuring family socioeconomic status. Using father's occupation allowed for a comparison

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[4](cont'd) for the blind.

between blind and sighted students in chapter three.

Future plans played a vital role in this study. Two questions were asked pertaining to aspirations and two pertaining to expectations. Questions #23-24 on the questionnaire asked about educational aspirations and expectations. Questions #33-34 dealt with occupational aspirations and expectations. These questions were taken from Porter, Porter and Blishen (1982) with slight revisions. Occupations were coded according to the Blishen and McRoberts (1976) SEI. The aspiration questions were followed directly by the expectation questions for both education and occupation to help the student distinguish between the two concepts.

Distinguishing Between Aspirations and Expectations

In sociological literature expectations are something anticipated. Unlike expectations, an aspiration is something wished for, dreamed of or perhaps hoped for with only a slight chance of obtaining it. Porter, Porter and Blishen (1982) recognized the importance of distinguishing between expectations and aspirations. They state that "in the light of the conditions in which people find themselves, aspirations become modified by reality into expectations" (1982:43). The discrepancy between aspirations and expectations has been documented by a number of researchers (Haller 1968; Han 1969; Pong 1972).

Respondents did distinguish between aspirations and expectations as anticipated in accordance with the published literature (Calliste 1984; Porter, Porter & Blishen 1982). Table 2.2 shows mean levels of expectations were lower than mean levels of aspirations for both education and occupation. The educational and occupational aspiration ranges were greater than their respective expectation ranges.

Table 2.2

Summary Statistics of Educational and Occupational Aspirations and Expectations.

Variable	X	s	Range	N
LEA	3.548	1.601	1-5	84
LEE	3.366	1.622	1-5	82
LOA	51.05	14.92	25.06-73.48	101
LOE	47.00	14.56	23.02-72.80	71

Although there were differences between levels of aspirations and expectations, the difference between mean LEA and LEE did not quite reach significance, whereas the difference between mean LOA and LOE did ($p=.038$). The insignificant difference between LEA and LEE may result from the fact that high school students are more familiar with the educational system because it is closer at hand than their occupational future. If this is true then educational aspirations may have already been transformed into more realistic expectations. This would agree with Porter, Porter

and Blishen's (1982) clarification of the difference between aspirations and expectations. Finally, the range and scale of educational choices are more limited than occupational choices.

The Data

The following table summarizes the variable distributions.

Table 2.3

Summary Statistics of the Blind Sample

Variable	X	Mode	Mdn.	s	Range	N
Age	17	18	17	1.376	15-19	105
Region	4.15	5	5	1.329	1-5	105
SES	44.20	29.73	39.03	16.42	19.32-75.28	100
School Grade	10.27	12	10	1.536	7-13	101
SP	3.43	3	3	1.013	1-5	101
Vision	5.86	10	6	3.242	0-10	103
Years Blind	10.72	5	11	5.469	1-19	95
Homework Method	2.49	3	3	.955	1-5	104
SCAA	19.70	20	20	4.307	6-30	101
FEP	3.35	4	4	1.170	1-5	101
LEA	3.548	5	4	1.6012	1-5	84
LEE	3.366	5	4	1.6217	1-5	82
LOA	51.05	68.72	51.52	14.923	25.06-73.48	101
LOE	47.00	61.64	45.94	14.558	23.02-72.80	71

The gender variable was evenly distributed with 52 males and 53 females. The average age was 17 years and the mean grade in school was 10. Thirty-one of 105 (29.5%) students had attended or still were attending a school for the blind. Most respondents, 62.9%, resided in urban areas. Only 18.1% lived in rural areas.

Degree of vision ranged from 0-10 with 82% of the cases falling from 4 to 10. This suggests that most respondents have functional vision. Seven students were totally blind and 9 had light perception only. The mode was 10 with 23 cases followed by a score of 5 with 19 cases. The 10 category may be inflated because ophthalmologists may send patients to C.N.I.B. who are borderline cases, especially when the eye condition is degenerative. Secondly, the degree of vision lost from 10 to 8 is not as noticeable to C.N.I.B. clients as it would be from 3 to 1. For the most part, people with greater than 5 vision can read normal size print and travel without the use of a white cane if need be. Conversely, having no vision is more limiting than having a score of 2, where "objectivity" (being able to see shadows or large objects) is present. The most commonly used medium for homework was regular print (52%). 22% used large print and 19% used braille.

The average mark in school was 60-69%. Students saw themselves as average achievers with a mean self-concept of academic ability score of 20. This would be about average on

the original six questions' 5 point scale of perceived academic ability. The FEP variable had a mean of 3.35 and a mode of 4, indicating a desire for higher education.

As mentioned in chapter one, father's SES is a key variable in predicting child's eventual SES. The population distribution for SES is positively skewed. This means that there are more people who have low to average levels of education and income (the main components in estimating SES) and fewer people who have very high educaiton and income levels. SES was positively skewed in this sample with a mean of 44.2, a median of 39.03 and a mode of 29. Students' educational and occupational expectations should mirror parent's SES in that both distributions should be positively skewed. This sample went contrary to the anticipated outcome. Both LEE and LOE were negatively skewed. LEE had a mean of 3.37, a mode of 5 and a median of 4. LOE was not quite so negatively skewed with a mean of 47.00, a mode of 61.64 and a median of 45.94. These results indicate that blind students' expectations are clustering at rather high levels of education and occupation with fewer cases falling on the lower end of the two dependent variable scales. These results are seen again when testing hypothesis three. See conclusions for a further discussion.

On Program Of Study

Ontario studies on status attainment and expectations include a program study variable. Secondary education in

Ontario is unique in that students are streamed into two main programs: a 5 year academic program which prepares them for university or a 4 year non-academic program from which a student can matriculate and go into the work force or continue on at a community college level. Theoretically, students in a 5 year program should have higher mental ability and educational expectations than those in other programs. Both were found to be true in this sample. Table 2.4 provides the percentage distribution of average mark by study program for those definitely in either a 4 year or 5 year program.

Table 2.4

Percentage Distribution of Average Mark by Program Subgroup

Average Mark	5 Year	4 Year
A over 80%	18.6	7.5
B 70-69%	51.2	25.0
C 60-69%	27.9	37.5
D 50-59%	0.0	20.0
E below 50%	0.0	10.0
Missing	2.3	0.0
Number of Cases	43	40

Table 2.4 shows that respondents reporting higher marks in school tended to be in a 5 year program and students with lower marks tended to be in a 4 year program. Does this not suggest that program of study may simply be a

dichotomization of school performance? Table 2.5 below reports educational expectations regressed on average mark in school and dummy variables for the two program subgroups using the "other" responses to study program as the reference category. Study program showed a similar effect on educational expectations as school performance again suggesting that study program and school performance may be measuring the same dimension[5].

Table 2.5[6]

Bivariate Analyses of Educational Expectations on Average Mark and Program of Study

Variable	B	SE B	Beta	Sig T	R^2
Average Mark	.551	.171	.344	.002	.12**
5 Year	1.801	.309	.551	.000	.30**
4 Year	-1.308	.345	-.400	.000	.16**

Porter, Porter and Blishen (1982) reported a similar finding as that in Table 2.5. Also, they found associations among the variables school performance, mental ability, SES, study program and educational expectations, although the direction and temporal order are yet to be ascertained. In "Stations and Callings" they discussed in detail the problematic nature of this program variable. Their discussion centered around the process of streaming students into either program. This elicited numerous questions, such

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[5]R=.45 P=.000 between school performance and study program
[6]*=.05 significance **=.01 significance

as: why do lower class students fall mainly in the 4 year program, why do students in a 4 year program receive lower marks than 5 year students, are teachers grading 4 year students according to 5 year standards, why do 5 year students have higher expectations, do students realize after they are placed in either program that the 4 year program offers limited opportunities or do students first formulate their expectations and then choose the appropriate program? Porter, Porter and Blishen eventually opted to analyze the 4 year and 5 year students separately. This study does not allow separate tabular analyses of program subgroups due to an insufficient sample size. Thus program of study was dropped from this analysis and school performance was based solely on average marks.

CHAPTER 3

COMPARING THE STUDIES

This chapter compares the levels of educational and occupational expectations between blind and sighted high school students. Do visually impaired students have higher, lower or similar vocational expectations to their sighted counterparts? Under which conditions, if any, do the two groups differ? In order to answer these questions our sample of legally blind high school students was compared to Blishen and Porter's 1971 sample of sighted Ontario high school students.

In 1971, Blishen and Porter conducted a study on "The Educational Plans of Ontario High School Students". Many of Blishen and Porter's (1971) questions were replicated in the blind sample in order to facilitate this comparison. The 1971 study sampled grades 8, 10 and 12. Grades 10 and 12 from Blishen and Porter's raw data were used for comparison here[7]. The present sample of blind students included grades 9 through 13.

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[7]Note the implications of a 15 year time lag. Mean levels of expectations for sighted students may have risen from 1971 to 1984. Therefore, the blind of 1984 may have comparable expectations to the sighted of 1971, but lower expectations than the sighted of 1984. Blishen and Porter's 1971 raw data was the best available for this comparison.

Blind and sighted students were compared on the following variables: gender, socioeconomic status (SES), school performance (SP) and self-concept of academic ability (SCAA). Region and friends' educational plans (FEP) were the only relevant variables not measured the same way in both studies and so is not addressed in this chapter.

Coding the Comparison Variables

The dependent variables for both data sets were coded as follows:

Level of Educational Expectations (LEE)

(1)work (2)apprenticeship

(3)technical inst./nursing (4)college (5)university

Level of Occupational Expectations[8] (LOE)

1. below 30.00 Unskilled: truck drivers, longshoremen, janitors
2. 30.00-39.99 Lesser Crafts, Semi-Skilled & Lower White Collar: stationary engineers, sales clerks, typists, farmers
3. 40.00-49.99 White Collar Clerical & Higher Crafts: bookeepers, office appliance operators, toolmakers
4. 50.00-59.99 Lesser Managers & Technicians: surveyors, occupational therapists, small business owners & managers
5. 60.00-69.99 Higher Professions & Higher Managers:

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[8]This classification was suggested by Porter, Porter & Blishen (1982). It uses Blishen & McRoberts' (1976) SEI of occupations to create a six point ordinal scale.

actuaries, large business owners, managers, airline pilots

6. 70.00+ Higher Professions: physicians, lawyers, engineers

Low cell frequencies in the blind sample allowed only two way comparisons even after recoding SES, school performance and self-concept of academic ability. SES was dichotomized: low SES included occupations falling in the first, second and third categories suggested by Porter, Porter & Blishen (1982); and high SES included occupations falling in the fourth, fifth and sixth categories. School performance was trichotomized into: low- below 60%, average- 60-69%, and high- over 70%. Self-concept of academic ability was dichotomized so that low included respondents who saw themselves as poor to average students with very little to only an average chance at succeeding in a post-secondary institution. Conversely, respondents with a high SCAA considered themselves good to excellent students in high school who would most likely succeed at a university level. The following tables report the blind to sighted comparisons.

Table 3.1[9]

LEE and LOE of Blind and Sighted

Ontario High School Students

	LEE			LOE		
	X	s	N	X	s	N
Blind	3.37	1.62	82	3.16*	1.60	71
Sighted	3.24	1.68	5233	3.72*	1.54	5587

Table 3.2

LEE and LOE of Blind and Sighted

Ontario High School Students by Gender

MALES

	LEE			LOE		
	X	s	N	X	s	N
Blind	3.15	1.54	41	3.21	1.53	38
Sighted	3.40	1.67	2711	3.65	1.68	2853

FEMALES

	LEE			LOE		
	X	s	N	X	s	N
Blind	3.59	1.69	41	3.09**	1.70	33
Sighted	3.08	1.68	2508	3.80**	1.38	2703

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[9]*=.05 significance **=.01 significance. Significance refers here to the difference between the legally blind and sighted sample scores.

Table 3.3

LEE and LOE of Blind and Sighted Ontario High School Students by SES

LOW SES

	LEE			LOE		
	X	s	N	X	s	N
Blind	3.02	1.71	49	2.85**	1.52	46
Sighted	3.08	1.67	3608	3.57**	1.52	3851

HIGH SES

	LEE			LOE		
	X	s	N	X	s	N
Blind	4.00	1.29	30	3.65	1.67	23
Sighted	3.86	1.57	1242	4.24	1.50	1329

Table 3.4

LEE and LOE of Blind and Sighted Ontario High School Students by SP

LOW SCHOOL PERFORMANCE

	LEE			LOE		
	X	s	N	X	s	N
Blind	2.64	1.57	11	2.20	1.62	10
Sighted	2.57	1.58	790	3.05	1.41	830

AVERAGE SCHOOL PERFORMANCE

	LEE			LOE		
	X	s	N	X	s	N
Blind	2.96	1.61	27	3.21	1.48	19
Sighted	2.81	1.60	1420	3.38	1.41	1543

HIGH SCHOOL PERFORMANCE

	LEE			LOE		
	X	s	N	X	s	N
Blind	3.88	1.54	41	3.43**	1.60	40
Sighted	3.63	1.64	2985	4.07**	1.54	3145

Table 3.5

LEE and LOE of Blind and Sighted
Ontario High School Students by SCAA

LOW SCAA

	LEE			LOE		
	X	s	N	X	s	N
Blind	2.98	1.67	45	2.80	1.56	39
Sighted	2.57	1.56	2793	3.21	1.38	3020

HIGH SCAA

	LEE			LOE		
	X	s	N	X	s	N
Blind	4.03	1.32	34	3.70**	1.54	30
Sighted	4.13	1.40	2219	4.40**	1.49	2328

Comparison Results

Two general findings result from these comparisons. Firstly, blind students displayed no consistent tendencies to be above or below their sighted counterparts when levels of educational expectations were compared. No significant differences were found under any of the selected conditions. In the blind sample, the total sample, females, high SES, SP and students with a low self-concept of academic ability had slightly, but not significantly, higher educational expectations than the sighted students.

The second finding is that, in all comparisons, sighted students have higher mean occupational expectations. Although only half of these differences reached the .05 significance level, the remaining comparisons were nearly significant. We can be confident in these results given that sighted students were consistently higher in their occupational expectations.

The magnitude of the difference in occupational expectations is better understood by considering the scaling of the LOE variable. For example, Table 3.3 reports that when SES is low, blind students have a mean LOE of of 2.85. A scale value of 3 includes the semi-skilled and lower white collar occupations such as motor vehicle repairmen, nursing aids and clerk typists. Sighted students' mean LOE of 3.57 most closely matches white collar clerical occupations such as nurses-in-training and library technicians. In the high SES category, Table 3.3, average LOE is one category higher for both blind and sighted students, but the difference between the two groups remains. Sighted students are striving for occupations such as sectretaries, clerical staff supervisors and physiotherapists. On the other hand, blind students expect the same occupations as the sighted students of low SES whose mean LOE are one category lower. Overall LOE differences between blind and sighted are not extremely large. They do not jump from electrician to electrical engineer, but are only one category apart, say from draftsman to engineer.

The conclusions drawn here are that blind and sighted students have similar educational expectations and sighted students have slightly higher occupational expectations. The structure of the educational system may account for that fact that blind and sighted students have similar educational expectations. The secondary school system in Ontario is free to all Canadians and landed immigrants. Attending university and college does carry a financial responsibility for all students. However, financial assistance is available from the Ontario Ministry of Community and Social Services to handicapped students wishing to attend post-secondary institutions. Economic background is not a consideration for such funding. Handicapped students need only demonstrate their academic abilities of which the most commonly used indicators are high school marks. Sighted students, on the other hand, must prove their financial need when applying for funding. So the financial burden is comparatively lightened for blind students.

The similarity of blind and sighted students' educational expectations might also be attributed to their familiarity with the education system. They may be more confident and realistic about their capabilities within that environment.

Handicapped students tend to have less exposure to the labour force than non-handicapped students. The nature of part time jobs after school tends to be more physical rather

than mental. This acts as a barrier to disabled students and limits their work experience. This lack of exposure to the labour force may result in low self-confidence in and knowledge about the labour force.

CHAPTER 4

TESTING THE HYPOTHESES

This chapter begins with a brief summary of the findings in chapter three. These findings are examined in view of the first hypothesis. The remainder of this chapter concentrates on the testing of the second and third hypotheses.

Testing Hypothesis 1

The first hypothesis states, that the effect of blindness on educational and occupational expectations is similar to that of other disadvantages in that blind students have lower expectations. It was found in the previous chapter that blind and sighted high school students' educational expectations (LEE) do not significantly differ for the categories of gender, socioeconomic status (SES), school performance (SP) or self-concept of academic ability (SCAA). Sighted students generally had higher occupational expectations (LOE) than blind students. When the two samples where compared by the independent variables, sighted students who where female, of low SES, high SP and high SCAA, had significantly higher levels of occupational expectations. The remaining comparisons (high SES, low SP and low SCAA) reached .06

significance with sighted students showing higher LOE.

The first hypothesis does not hold true for level of educational expectations. Blindness is not a disadvantage to education because blind and sighted respondents have similar educational expectations. If blindness was similar to other disadvantages, then blind students should have had lower educational expectations. The first hypothesis is true with respect to level of occupational expectations in that blind students generally do have lower expectations than their sighted counterparts[10]. These results suggest two possible conclusions, either blindness is a disadvantage to occupational but not educational expectations or that blindness is a disadvantage to both LEE and LOE but there is a confounding variable that mitigates the hindering effects of blindness on expectations, especially educational expectations. For example blind students of rural residence may have higher LEE than sighted students of rural residence. At the same time blind students from the city might have lower LEE than their sighted counterparts. This would demonstrate Breton's (1972) and Hyman, Stokes & Strauss' (1979) suggestion of a double disadvantage where someone with more than one disadvantage may try harder through overachievement to compensate for their

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[10]Stepwise regressions were run with both blind and sighted samples together using LEE and LOE as dependent and Study (1=blind 2=sighted),SP, SES, Gender and SCAA as independent variables. The results support conclusions for the first hypothesis. Study did not enter the LEE equation, but was significant with a positive slope (B=1.36) when LOE was dependent.

disadvantageous position.

A Double Disadvantage and Hypothesis 2

The notion of a double disadvantage causing unrealistically high expectations has both theoretical and statistical implications. According to status attainment theory, a person possessing two disadvantages, e.g. blindness and low SES, should have lower expectations than someone with only one disadvantage, e.g. blindness. This theoretical problem translates into a statistical problem as it questions the additivity assumption of multiple regression.

The second hypothesis, that the effect of having two disadvantages, blindness with one of the other disadvantages, is additive rather than interactive, is examined here by using two data sets. The first data set is a combined sample of legally blind and sighted students, where being blind is a disadvantage. The second data set contains the legally blind sample only, where having no or very low vision is a disadvantage.

The second hypothesis was tested by using multiple regression on each sample; on the blind and sighted samples combined, and then on the blind sample only. Two separate regressions were run for each independent variable, one with only the two original independent variables and one with an interaction term included. Interaction terms were computed by multiplying each "disadvantage" or independent variable

by a disability variable (1=blind and 2=sighted) for the combined sample and the orginal degree of vision variable for the blind only sample.

The regression equations used to test for interaction were:

[1] LEE or LOE = $a + b_1X_1 + b_2X_2$

[2] LEE or LOE = $a + b_1X_1 + b_2X_2 + b_3X_1X_2$

Where:

LEE or LOE=predicted values of LEE or LOE

a= constant

X_1= disability(combined) or degree of vision(blind only)

X_2= "disadvantage" one of gender, region, SES, SP, FEP[11], SCAA

X_1X_2= product of DISABILITY/VISION and "disadvantage"

The second hypothesis is tested first with the blind and sighted samples combined, where being legally blind is a disadvantage, and then with the blind sample only, where having no or very low vision is a disadvantage.

Testing Hypothesis 2 - Combined Sample

Results for the interaction test using the blind and sighted samples combined are reported in the following two tables[12]. Results are presented separately for the dependent variables, level of educational expectations, Table 4.1 and

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[11]FEP was not measured the same for the blind and sighted samples so is not reported in Table 4.1 and Table 4.2.

[12]Tolerance levels were lowered to .0001 and interaction terms were forced to enter the equations for Table 4.1 and Table 4.2.

level of occupational expectations, Table 4.2.

Table 4.1[13]

Regression Analysis of LEE on Each Independent Variable and its Interaction Term (Combined Sample)

Equation	R	Variable	B	SE B	Beta	Sig T
1	.093**	Gender	-.311	.046	-.093	.000
		Study	-.126	.180	-9.6E-3	.484
2	.097**	Gender	1.103	.715	.328	.123
		Study	.948	.571	.072	.097
		Inter.	-.713	.360	-.429	.108
1	.252**	SES	.304	.017	.252	.000
		Study	-.103	.182	-7.8E-3	.570
2	.252**	SES	.373	.211	.310	.077
		Study	-2.6E-3	.355	-2.0E-4	.994
		Inter.	-.035	.106	-.058	.742
1	.299**	SP	.502	.022	.299	.000
		Study	-.198	.173	-.015	.254
2	.299**	SP	.547	.346	.325	.114
		Study	-.121	.614	-9.2E-3	.844
		Inter.	-.023	.174	-.028	.897
1	.464**	SCAA	1.492	.040	.464	.000
		Study	-.158	.164	-.012	.335
2	.465**	SCAA	.373	.595	.116	.531
		Study	-1.510	.736	-.115	.040
		Inter.	.565	.300	.364	.060

[13]*=.05 significance **=.01 significance

Table 4.2[14]

Regression Analysis of LOE on Each Independent Variable and its Interaction Term (Combined Sample)

Equation	R	Variable	B	SE B	Beta	Sig T
1	.063**	Gender	.146	.041	.047	.000
		Study	.498	.161	.041	.002
2	.063**	Gender	.469	.639	.152	.463
		Study	.744	.511	.062	.145
		Inter.	-.163	.322	-.107	.612
1	.224**	SES	.244	.015	.220	.000
		Study	.507	.163	.042	.002
2	.224**	SES	.247	.189	.223	.191
		Study	.512	.318	.042	.108
		Inter.	-1.8E-3	.095	-3.3E-3	.985
1	.305**	SP	.467	.020	.302	.000
		Study	.421	.154	.035	.006
2	.306**	SP	7.4E-3	.308	4.8E-3	.981
		Study	-.362	.547	.030	.508
		Inter.	.232	.155	.306	.136
1	.387**	SCAA	-1.136	.037	.385	.000
		Study	.465	.152	.038	.002
2	.389**	SCAA	-.746	.551	-.253	.176
		Study	-1.809	.682	-.150	.008
		Inter.	.950	.278	.667	.001

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[14] *=.05 significance **=.01 significance

Table 4.1 and Table 4.2 showed signs of collinearity thus preventing assessment of the interaction terms[15]. Multicollinearity occurs when independent variables are so highly correlated with each other that a reliable estimate of the partial slopes cannot be obtained. Thus, researchers cannot compare the effects of the independent variables on the dependent variable if they are in the same equation. A comparison of regression coefficients calculated separately for the blind and sighted samples was the only way to avoid the collinearity problem. The comparison results of LEE and LOE regressed on the independent variables for the blind and sighted samples are presented in Table 4.3.

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[15]Correlations for the independent variables and their respective interaction terms were far too high (gender .980, SP .976, SES .988 and SCAA .957), slopes were unstable, significance fell drastically when the interaction term entered and the criterion level had to be lowered to allow some interaction terms to enter.

Table 4.3[16]

Unstandardized Regression Coefficients

for Blind and Sighted Students

LEE

Study	Variable	R	B	SE B	Sig T
Blind	Gender	.136	.440	.358	.223
Sighted	Gender	.096**	-.323	.046	.000
Blind	SP	.344**	.551	.171	.002
Sighted	SP	.298**	.501	.022	.000
Blind	SES	.390**	.372	.100	.000
Sighted	SES	.250**	.302	.017	.000
Blind	SCAA	.356**	1.054	.316	.001
Sighted	SCAA	.466**	1.500	.040	.000

LOE

Study	Variable	R	B	SE B	Sig T
Blind	Gender	.038	-.120	.383	.756
Sighted	Gender	.048**	.148	.041	.000
Blind	SP	.246*	.389	.187	.042
Sighted	SP	.304**	.468	.020	.000
Blind	SES	.300**	.283	.110	.012
Sighted	SES	.219**	.243	.015	.000
Blind	SCAA	.306**	.895	.340	.011
Sighted	SCAA	.386**	1.140	.037	.000

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[16]*=.05 significance **=.01 significance

Table 4.3 indicates no definite signs that interaction is affecting either LEE or LOE. Slope differences between the two studies ranged from .050 (SP) to .763 (SCAA). The size of the unstandardized slopes are not exactly the same, but they are close enough to conclude additivity. The only suggestion of interaction appeared when LEE was regressed on gender. The slope for the sighted sample was positive, whereas the slope for the blind sample was negative, although it was insignificant. Blind females had higher educational expectations than blind males. This is not too surprising when one considers that in chapter three blind females showed slightly higher educational expectations than blind males and sighted females. Despite the insignificant differences neither additivity nor interaction can be concluded for the gender variable. The limitations of comparing regression coefficients from two independent samples is the impossibility of a significance test. In spite of this limitation, a conclusion of no interaction is drawn for SP, SCAA and SES.

Testing Hypothesis 2 - Blind Sample Only

The following two tables report the interaction test results using the blind sample only. The interaction term was computed by multiplying the original degree of vision variable (scale=0 through 10) by each of the following independent variables: gender, region, SP, FEP and SCAA. The dependent variables are presented in two separate tables.

Table 4.4 reports level of educational expectations, and Table 4.5 reports level of occupational expectations.

Table 4.4[17]

Regression Analysis of LEE on Each Independent Variable and its Interaction Term (Blind Sample)

Equation	R	Variable	B	SE B	T	Sig T
1	.162	Vision	-.044	.056	-.790	.432
		Gender	.450	.361	1.247	.216
2	.163	Vision	-.058	.186	-.312	.756
		Gender	.398	.757	.526	.600
		Inter.	.001	.114	.078	.938
1	.182	Vision	-.039	.056	-.691	.492
		Region	.198	.136	1.455	.150
2	.194	Vision	.051	.160	.318	.751
		Region	.333	.265	1.259	.212
		Inter.	-.022	.038	-.597	.553
1	.391**	Vision	-.050	.053	-.946	.347
		SES	3.8E-4	1.1E-4	3.596	.001
2	.406**	Vision	-.205	.162	-1.266	.209
		SES	1.7E-4	2.3E-4	.765	.447
		Inter.	3.4E-5	3.4E-5	1.012	.315

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[17] *=.05 significance **=.01 significance

1	.349**	Vision	-.028	.054	-.523	.603
		SP	.544	.174	3.130	.003
2	.351*	Vision	.032	.197	.162	.872
		SP	.638	.344	1.855	.068
		Inter.	-.017	.053	-.318	.751
1	.412**	Vision	-.021	.053	-.400	.690
		FEP	.562	.147	3.835	.000
2	.452**	Vision	.321	.198	1.617	.110
		FEP	1.224	.398	3.079	.003
		Inter.	-.098	.055	-1.786	.078
1	.516**	Vision	-.055	.049	-1.116	.268
		SCAA	.192	.038	5.183	.000
2	.516**	Vision	-.028	.240	-.116	.908
		SCAA	.201	.083	2.420	.018
		Inter.	-.001	.012	-.115	.909

Table 4.5[18]

Regression Analysis of LOE on Each Independent Variable and its Interaction Term (Blind Sample)

Equation	R	Variable	B	SE B	T	Sig T
1	.205	Vision	-.840	.541	-1.522	.125
		Gender	-2.201	3.494	-.630	.531
2	.235	Vision	.842	1.791	.453	.652
		Gender	3.979	7.281	.546	.587
		Inter.	-1.057	1.092	-.968	.337
1	.295*	Vision	-.814	.529	-1.539	.129
		Region	2.478	1.290	1.921	.059
2	.308	Vision	-1.703	1.517	-1.232	.222
		Region	.882	2.507	.352	.726
		Inter.	.265	.356	.743	.460
1	.391**	Vision	-.923	.517	-1.784	.079
		SES	.003	.001	2.969	.004
2	.396**	Vision	-.097	1.585	-.061	.952
		SES	.004	.002	1.854	.069
		Inter.	-.001	.003	-.551	.584
1	.288	Vision	-.777	.539	-1.440	.155
		SP	3.127	1.725	1.813	.075
2	.289	Vision	-.565	1.962	-.288	.774
		SP	3.457	3.422	1.010	.316
		Inter.	-.059	.526	-.112	.911

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[18]*=.05 significance **=.01 significance

1	.234	Vision	-.790	.549	-1.442	.154
		FEP	1.701	1.520	1.119	.267
2	.234	Vision	-.660	2.102	-.314	.755
		FEP	1.955	4.214	.464	.644
		Inter.	-.038	.584	-.065	.949
1	.527**	Vision	-.968	.474	-2.042	.045
		SCAA	1.664	.357	4.664	.000
2	.528**	Vision	-.424	2.315	-.183	.855
		SCAA	1.635	.799	2.298	.025
		Inter.	-.027	.114	-.240	.811

Table 4.4 showed only one case of possible interaction. A small interaction effect seemed to be present when LEE was regressed on Vision, FEP and the respective interaction term. The R rose from .412 to .452 when the product term entered. However, the regression coefficients and the standard error for the slopes rose drastically when the product term entered, thus indicating collinearity and rendering the equation problematic. Table 4.5 showed no real signs of interaction, but there were signs of collinearity in every interaction test and thus no conclusions of interaction absence or presence could be drawn by using the blind sample only. Table 4.6 presents the alternate method for interaction testing where the regression coefficients for the three separate degree of vision categories are compared. Each dependent variable was regressed on each independent variable for each category of degree of vision.

Table 4.6[19]

Regression for LEE and LOE on the Independent Variables for three Degree of Vision Categories

LEE

Vision	Variable	R	B	SE B	Sig T
Low	Gender	.318	.867	.668	.214
Medium	Gender	.099	-.349	.661	.602
High	Gender	.232	.718	.532	.186
Low	Region	.667**	.614	.177	.003
Medium	Region	.021	.033	.299	.914
High	Region	.138	.151	.191	.437
Low	SES	.303	2.5E-4	2.1E-4	.237
Medium	SES	.261	3.0E-4	2.2E-4	.180
High	SES	.510**	4.7E-4	1.4E-4	.003
Low	SP	.187	.260	.352	.472
Medium	SP	.387*	.650	.310	.046
High	SP	.293	.464	.268	.093
Low	FEP	.437	.748	.397	.079
Medium	FEP	.691**	1.056	.217	.000
High	FEP	.281	.337	.207	.114
Low	SCAA	.459	.165	.082	.064
Medium	SCAA	.484**	.203	.072	.009
High	SCAA	.560**	.188	.049	.001

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[19]*=.05 significance **=.01 significance

LOE

Vision	Variable	R	B	SE B	Sig T
Low	Gender	.238	4.860	5.988	.434
Medium	Gender	.032	-.926	5.828	.875
High	Gender	.253	-7.959	5.746	.177
Low	Region	.598*	4.122	1.666	.031
Medium	Region	.071	.919	2.622	.729
High	Region	.246	2.723	2.032	.191
Low	SES	.592*	.004	.002	.033
Medium	SES	.360	.003	.002	.077
High	SES	.333	.003	.002	.077
Low	SP	.316	3.288	2.974	.293
Medium	SP	.399*	5.450	2.672	.054
High	SP	.101	1.633	3.028	.594
Low	FEP	.002	-.026	3.862	.995
Medium	FEP	.398*	4.944	2.430	.054
High	FEP	.028	.340	2.307	.884
Low	SCAA	.543*	1.462	.681	.055
Medium	SCAA	.503**	1.710	.614	.011
High	SCAA	.493**	1.677	.560	.006

Many of the slopes in Table 4.6 fell too far below significance, thus preventing even tentative conclusions. LEE showed no signs of interaction for SP or SCAA. FEP indicated a small interaction effect as low FEP had a slope of .748 (p=.079), medium FEP 1.056 (p=.000) and high FEP .281 (p=.114). The LOE equations experienced no interaction

for either SES or SCAA.

Testing Hypothesis 3

The third hypothesis states, the extent to which blindness influences expectations varies according to degree of vision, where students with no or very low vision have low educational and occupational expectations. Only the legally blind sample was used in testing this hypothesis. The two dependent variables LEE and LOE were regressed on the following seven original independent variables; gender, region, SP, SCAA, FEP, SES and degree of vision. The stepwise method was used to determine the dominant explanatory variables. Degree of vision was forced to enter the LEE equation regardless of its insignificant slope in order to test the third hypothesis. Table 4.7 and Table 4.8 report the multiple regression results for testing the third hypothesis [20].

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[20]The correlation between degree of vision (0=no vision through 10=borderline legally blind) and LEE was -.08 P=.23 and LOE was -.19 P=.06

Table 4.7[21]

Regression Analysis of LEE on Independent Variables

Step	R	R^2	Variable	B	SE B	Sig T
1	.504**	.254	SCAA	.190	.037	.000
2	.566**	.321	SCAA	.164	.037	.000
			SES	2.6E-4	9.7-5	.008
3	.607**	.369	SCAA	.134	.038	.000
			SES	2.4E-4	9.4E-5	.013
			FEP	.328	.137	.019
4	.614**	.377	SCAA	.138	.038	.000
			SES	2.5E-4	9.4E-5	.011
			FEP	.310	.138	.028
			Vision	-.046	.046	.330

Table 4.8[22]

Regression Analysis of LOE on Independent Variables

Step	R	R^2	Variable	B	SE B	Sig T
1	.481**	.232	SCAA	1.626	.362	.000
2	.528**	.279	SCAA	1.432	.366	.000
			SES	.002	.001	.042
3	.573**	.328	SCAA	1.465	.356	.000
			SES	.002	.001	.031
			Vision	-1.001	.457	.032

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[21] *=.05 significance **=.01 significance

[22] *=.05 significance **=.01 significance

Table 4.7 shows that LEE has 37% of its variance explained by SCAA, SES and FEP. As expected, all slopes are positive. Region, SP and gender did not enter the equation using the stepwise method. In this sample, the best predictors of LEE were SCAA, SES and FEP. Degree of vision accounted for 1% more of the explained variance in LEE. However, degree of vision displayed a negative slope, which goes against the third hypothesis.

The predominant variables in this sample are not necessarily the same ones reported in the literature, although their direction agrees with previous findings. According to the literature gender and school performance should have shown stronger associations with level of educational expectations.

Table 4.8 shows that LOE also has three significant predictors: SCAA, SES and degree of vision. Together they account for 33% of the variance in LOE. Degree of vision alone explains 5%, of the variance. SCAA and SES have positive slopes while degree of vision again displays a negative slope. So, as self-concept of academic ability and socioeconomic status rise so does the level of occupational expectations. However, degree of vision is the opposite where high occupational expectations are associated with having no or very low vision and low LOE is associated with having only a slight vision loss. Gender, region, school performance and friends' educational plans do not enter the equation using the stepwise method. Self-concept of academic

ability, degree of vision and SES were the dominant explanatory variables for level of occupational expectations. The relevant independent variables used to estimate LOE do not differ from the literature as much as those that entered into the final LEE regression. However, according to the literature, gender should have been a significant predictor for LOE.

The results from the third hypothesis are reconfirmed by examing the mean levels of both educational and occupational expectations of the legally blind sample. Degree of vision was recoded into three categories, no vision and light perception only, functional vision and objectivity and high vision with large and normal print reading ability. LEE is left in its original five point form and LOE was recoded to the Blishen, Porter & Porter (1982)[23] six point scale. A examination of LOE and LEE across the three degree of vision categories shows similar results to those seen in Tables 4.7 and 4.8. Degree of vision had no association with LEE, however, a negative relationship appears with LOE. Respondents with no vision and light perception only have a mean LOE of 4.00, functional vision respondents have a mean of 3.09 and high vision respondents fall to 2.98.

The third hypothesis is unequivocally rejected. Indeed, expectations do vary according to degree of vision but not in the anticipated direction. Respondents with little or no

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[23]Scale definition is reported in Chapter 3.

vision do not have lower occupational expectations than those who have only a slight vision loss. On the contrary, students with little or no vision have higher occupational expectations rather than lower ones. Level of educational expectations showed a similar result as level of occupational expectations, although the slope was insignificant.

CHAPTER 5

CONCLUSIONS

A sample of 105 blind and visually impaired Ontario high school students' were surveyed about their educational and occupational expectations. The general question of how and to what extent does blindness affect future expectations of high school students was answered by testing three hypotheses.

This sample showed trends similar to those reported in the literature. Generally speaking, blind and visually impaired high school students expected to attend a community college or university after high school graduation. The majority of students expected to obtain jobs which fell in Blishen and McRoberts' fourth occupational category. Class IV included white collar clerical and higher craft positions. The key variables reported in the status attainment literature were measured and revealed nearly normal distributions with no outstanding features. Blind students, like their sighted counterparts, modified their higher aspirations to more realistic expectations.

Discussion of Hypothesis 1 Results

The first hypothesis, that blindness is similar to other disadvantages in that blind students have low

educational and occupational expectations, demanded two conclusions, one for each dependent variable. With regard to educational expectations the first hypothesis was rejected. Blindness was not similar to other disadvantages because blind and visually impaired high school students did not have lower educational expectations than sighted students even when gender, SES, school performance and self-concept of academic ability were controlled. All other conditions being equal, blind and sighted students had the same educational expectations.

A firm conclusion for the first hypothesis with respect to LOE was not as clear cut as with LEE. Although sighted students generally had higher occupational expectations, only about half of the comparisons showed significant differences between the legally blind and sighted sample means. There was only one comparison, average SP, which was far below significance. The small sample size of blind students and the fact that sighted students had consistently higher levels of occupational expectations allowed a tentative conclusion to be drawn. Blindness is similar to other disadvanantages with respect to LOE because blind students consistently had lower occupational expectations.

The rejection of hypothesis one for LEE and its acceptance for LOE implies an awareness of equal access to education, but not so much to employment. Government control is greater over equal opportunity to education than it is to employment. The move towards equal access to higher

education seems to be underway and indicates a positive social change is at hand. As disadvantaged groups acquire similar educational backgrounds, via equal access to education, the barriers are lifted and they start competing on equal grounds for the same jobs as as the non-disabled. This coupled with government programs such as affirmative action, help to increase the range of opportunity available to visually impared people within the labour force. Until an equal opportunity market exists, blindness remains a disadvantage to occupational expectations and attainment.

Discussion of Hypothesis 2 Results

To test the second hypothesis multiple regression was used to ascertain whether the effects of blindness on expectations were additive or interactive. Possible interaction effects were sought in two samples, a combined sample of legally blind and sighted students, and a sample of only the legally blind students. Two multiple regression equations were used on each sample. The first equation contained two original independent variables. The second equation included the two original independent variables and their product term. See chapter four for a detailed description.

The first step in testing hypothesis two used a combined sample of blind and sighted students to find out if being legally blind, regardless of the degree of visual impairment, produced interaction effects with other

disadvantageous factors. Unfortunately, the interaction terms were highly correlated with their original component variables which resulted in unacceptable amounts of collinearity when the product term entered. The only suggestion of no interaction was found by comparing regression coefficients of the blind and sighted samples separately. The difference between the two samples' slopes were very small and additivity was accepted. Gender was the only variable showing signs of interaction as blind females had slightly higher educational expectations than both blind males and sighted females.

The second step used to test for interaction involved the blind sample only, in order to ascertain whether varying degrees of vision loss produced interaction effects with other disadvantageous factors. The results for the dependent variable LEE showed no signs of interaction. Thus additivity was accepted. No conclusions about level of occupational expectations could be drawn due to high amounts of collinearity. A comparison of bivariate regression coefficients of three ordinal degree of vision categories was difficult due to insignificant slopes. For those variables that could safely be compared, only one interaction effect appeared when LEE was regressed on FEP. SP and SCAA were additive for LEE equations. With respect to LOE, SES and SCAA were additive. Caution is advised here when interpreting slope comparisons as no significance test was possible.

Discussion of Hypothesis 3 Results

Thus far, the results coincide with status attainment theory, that an educational and occupational status continuum is present and can be predicted according to individual social, economic and academic background. The disability of blindness was added into the exogenous factors estimating status expectations and eventual attainment.

The question of how and to what extent blindness affects future expectations was addressed in the testing of the third hypothesis. At this point the results seemed to go against status attainment theory. If blindness is a disadvantage then expectations should vary according to degree of vision. Expectations did vary, but in the opposite direction to what the theory dictates. The negative regression coefficients predicted decreasing expectations and implicitly attainment for increasing degree of vision within the legal definition of blindness.

These results do not dispute the previous conclusions that blindness is a disadvantage to future attainment. As a group blind students did have lower expectations than sighted students and the effect of blindness on expectations was additive. The negative stratification within the present sample can only be understood by considering the uniqueness of a disability, such as blindness, and the assignment of occupations along the status continuum.

As mentioned earlier blindness is a real physical limitation to performing certain jobs. If the job required

high visual acuity, then it would be unsuitable for a blind employee. Many jobs which require vision also fall on the lower end of the occupational status continuum. Certainly jobs of higher status also demand vision, but the visual component can be dealt with by use of technical aids. For example, a fork lift operator must see in order to direct the machine. No technical aid is presently available to compensate for this vision requirement. However, a vision requirement such as the ability to read can be overcome through technical aids. Many jobs with a reading requirement also fall higher on the occupational scale. For example, an accountant must read voluminous amounts. There are a few alternatives in handling this vision requirement such as sighted readers, optical scanning equipment, braille transcription etc.

The difference between low and high occupational status jobs is in the nature of the vision requirement and how it is presently handled. Lower occupational status jobs tend to be manual in nature, whereas higher occupations are more mentally oriented. One of the three components in assignning occupational status is education. The educational and occupational continua are positively correlated. Jobs requiring more education also demand less vision because of technical aid compensation and they tend to deal with abstract concepts. There are exceptions to this rule, e.g. surgeons and airline pilots, but generally this is the case.

Many doors have opened to blind and visually impaired people with respect to education and employment because of technological advancements. I am not suggesting a spurious relationship where a blind student's IQ rises with technological availability. Rather, equality of access to higher education has occurred by eradicating barriers of vision requirements and thus allowing blind and visually impaired students to develop intellectually.

There is one more point to consider for this negative relationship between degree of vision and expectations. The fact that totally blind and low vision students have higher expectations than those who are less visually impaired suggests that they may in fact realize their situation, as stated by Strauss (1968). If they do not pursue a college or university education their opportunity within the labour force is more limited. Unskilled and semi-skilled jobs for totally blind people are few and far between mainly because of the visual component. Could it be that students who would normally aim for mid-range occcupations push harder to achieve a high occupational status rather than face the possibility of no or minimal employment? I leave this question for further research.

Implications of the Study

This study offers yet another ascriptive variable to status attainment research. The disability of blindness is a disadvantage to occupational expectations and, implicitly,

attainment, but apparently not to education. The fact that blind students have lower occupational expectations than their sighted counterparts questions two components of the status attainment paradigm, that an equal opportunity market exists where individual backgrounds are matched to labour force needs. This thesis can be added to the established literature on uneven minority group distributions within certain labour force sectors.

Structural barriers, particularly the educational system, have been identified as causes for uneven minority group distributions. This is not true for the blind. They do have equal access to higher education. Both federal and provincial governments have played a vital role in furthering educational opportunities for disabled students. Government programs have been invaluable in first opening educational doors, e.g. integration, and then providing the means to get through the educational system, e.g. specialized equipment. The uncomfortable question now is, why do legally blind students have lower occupational expectations than the sighted? What structural barriers prevent visually impaired students from attaining occupational levels that coincide with their education and compare to their sighted contemporaries? This problem demands further research.

Occupational expectations within the blind sample are not stratified from borderline legally blind downwards to no vision. On the contrary, low vision students have the

highest occupational expectations within the blind sample. The implications of this finding may be to encourage students with a slight vision loss to strive for higher education and hopefully occupations. Then they can compete with the sighted on equal grounds for employment. As mentioned earlier, higher status occupations assume a greater ability to compensate for a vision requirement in professional jobs, but not so much in lower status, manually oriented jobs.

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APPENDIX A

FUTURE SCHOOLING AND WORK QUESTIONNAIRE

INSTRUCTIONS

Please circle the appropriate answers or fill in the blanks where necessary.

A. First, a few questions about you and your family.

1. What is your date of birth?
   Day ____ Month _____ Year___

2. Are you:
   1. male
   2. female

3. What city, town or county do you live in?
   _____

4. How would you describe the place where you live?
   1. rural farm
   2. rural non-farm
   3. village
   4. town
   5. city

5. How long have you lived in this city, town or county?
   ____ years

6. How long have you lived in Canada?
   ____ years

7. How many brothers and sisters do you have?
   ____ older brothers
   ____ older sisters
   ____ younger brothers
   ____ younger sisters

8. How long have you been registered as legally blind?
   ____ years

9. What degree of vision do you have, if 0% is no vision and 10% is borderline registered legally blind.
   0%-none-totally blind
   1%-light perception only
   2%
   3%
   4%
   5%
   6%
   7%
   8%
   9%
   10%-very slight vision loss

10. Have you ever attended a school for the blind?
    1. yes, from grade ___ to grade ___
    2. no

11. What methods do you use to do your homework? Circle all that apply to you.
    1. braille
    2. large print
    3. normal print
    4. tapes

12. How far did your father go in school?
    1. None
    2. Elementary school
    3. High school
    4. College
    5. University
    6. Other, please specify _____
    0. don't know

13. How many years of schooling does your father have?
    ____ years
    0. don't know

14. How far did your mother go in school?
    1. None
    2. Elementary
    3. High school
    4. College
    5. University
    6. Other, please specify_____
    0. Don't know

15. How many years of schooling does your mother have?
    ____ years
    0. don't know

16. What is your father's job or occupation? If he works in more than one job, put down the one in which he spends the most time. If your father is unemployed or retired put down the job he used to do. Use two or more words, for example: electrical engineer, government office manager, cattle farmer etc.
    _____

17. What is your mother's job or occupation?
    _____

B. About Your Schooling

18. What grade are you in?
    grade ____

19. Which program of study are you in now?
    1. 5 year program
    2. 4 year program
    3. Other, please specify _____

20. Who helped you most to decide which program to go into?
    1. Parents
    2. Other relatives
    3. Teacher
    4. Principal or vice-principal
    5. Guidance counsellor
    6. Friends
    7. Other, please specify _____
    8. No one helped me

21. What was your overall average mark last year?
    1. A-80% and over
    2. B-70 to 79%
    3. C-60 to 69%
    4. D-50 to 59%
    5. E-below 50%

22. About how many of your friends plan to continue their education after high school?
    1. none
    2. a few
    3. about half
    4. most
    5. all

23. If you had your choice what would you like to do after leaving high school?
    1. work
    2. apprenticeship training
    3. institute of technology
    4. community college
    5. university
    6. other, please specify _____
    8. don't know

24. Not everyone gets to do what they would like. In reality, what do you expect to do after leaving high school?
    1. work
    2. apprenticeship training
    3. institute of technology
    4. community college
    5. university
    6. other, please specify _____
    7. don't know

25. If you do plan to continue your education after high school, what area of study do you expect to go into? For example: psychology, computers, business etc.

    _____

    0. undecided
    1. I do not intend to continue

26. Who has helped you most in thinking about your possibilities for education after high school?
    1. Parents
    2. Other relatives
    3. Teachers
    4. Guidance cousellor
    5. Principal or vice-principal
    6. Friends
    7. Other, please specify _____
    8. No one helped me
    9. I do not intend to continue

Please answer the following questions whether you plan to continue your schooling or not.

27. How do you rate yourself in school ability compared with those in your class room?
    1. Much better than average
    2. Above average
    3. Average
    4. Below average
    5. Much worse than average

28. Do you think you have the ability to complete university?
    1. most definitely
    2. more than likely
    3. maybe
    4. not likely
    5. most definitely not

29. Where do you think you would rank in a class at university?
    1. much better than average
    2. above average
    3. average
    4. below average
    5. much worse than average

30. In order to become a lawyer or university professor, university training beyond 4 years is necessary. How likely do you think it is that you could complete such advanced work?
    1. most definitely
    2. more than likely
    3. maybe
    4. not likely
    5. most definitely not

31. Forget for a moment how others grade you. In your own opinion how good do you think your ability to work is?
    1. much better than average
    2. above average
    3. average
    4. below average
    5. much worse than average

32. What do you expect your grades to be this year?
    1. much better than average
    2. above average
    3. average
    4. below average
    5. much below average

C. Your Future Occupation

33. If you had your choice, what type of work or occupation would you like to have most as a career? Write down the job title and describe the job as best you can.

    _____

    _____

34. Not everyone ends up doing the job they like. Considering your situation, what job do you think you will actually end up doing? Write down job title and describe it as best you can.

    _____

    _____

35. How sure are you that you will end up doing this for your career?
    1. very sure
    2. fairly sure
    3. half and half
    4. not too sure
    5. not very sure at all

36. What are two of your greatest assets that may help you to get a job?
    1. _____
    2. _____

37. What are two of your limitations that may make getting a job difficult?
    1. _____
    2. _____

D. Your Opinions and Ideas

38. Teenage life is hard at times, but even the problems can produce something good.
    1. always
    2. often
    3. sometimes
    4. rarely
    5. never

39. If I did not have a visual impairment, I could become almost anything I wanted.
    1. strongly agree
    2. agree
    3. maybe
    4. disagree
    5. stronly disagree

40. In social situations I feel self-conscious about my visual handicap.
    1. always
    2. often
    3. sometimes
    4. rarely
    5. never

41. Because of my visual limitations, my chances of a <u>good</u> <u>education</u> are small.
    1. strongly agree
    2. agree
    3. maybe
    4. disagree
    5. strongly disagree

42. Because of my visual limitations my chances at a <u>good</u> <u>career</u> are small.
    1. strongly agree
    2. agree
    3. maybe
    4. disagree
    5. strongly disagree

43. My visual handicap is a blessing in disguise.
    1. strongly agree
    2. agree
    3. maybe
    4. disagree
    5. strongly disagree

44. Any additional comments you have about visual impairment and education or jobs would be greatly appreciated.

Thank you for your time and answers. Please put the questionnaire in the self-addressed envelop and mail it as soon as possible.

A follow-up study is planned for 5 years from now to find out where the respondents are in their education or occupation. If you are willing to participate in this follow-up study or would like a copy of the study results, please include your name, address and telephone number.

_____

_____

_____

_____

APPENDIX B

CODEBOOK

FUTURE SCHOOLING AND WORK QUESTIONNAIRE

February 1984

Brenda A. Bush

VAR	QUES	CARD	COLUMN	DESCRIPTION
01	01	01	1-2	DAY OF BIRTH 99. no response
02	01	01	3-4	MONTH OF BIRTH 99. no response
03	01	01	5-6	YEAR OF BIRTH 99. no response
04	02	01	7	SEX 1. male 2. female 9. no response
05	04	01	8	REGION OF RESIDENCE 1. rural farm 2. rural non-farm 3. village 4. town 5. city 9. no response
06	05	01	9-10	YEARS IN PRESENT LOCALE 99. no response
07	06	01	11-12	YEARS IN CANADA 99. no response
08	07	01	13-14	NUMBER OF OLDER BROTHERS 99. no response
09	07	01	15-16	NUMBER OF OLDER SISTERS 99. no response
10	07	01	17-18	NUMBER OF YOUNGER BROTHERS 99. no response
11	07	01	19-20	NUMBER OF YOUNGER SISTERS 99. no response
12	08	01	21-22	YEARS REGISTERED BLIND 99. no response
13	09	01	23-24	DEGREE OF VISION 0%-none, totally blind 1%-light perception only 2% 3% 4% 5% 6% 7% 8% 9% 10%-very slight vision loss 99. no response
14	10	01	25	ATTENDED BLIND SCHOOL? 1. yes 2. no 9. no response
15	10	01	26-27	FROM GRADE: 00. did not attend 99. no response

16	10	01	28-29	TO GRADE: 00. did not attend 99. no response
17	11	01	30	METHOD OF STUDY 1. braille 2. large print 3. normal print 4. tapes 5. multiple responses 9. no response
18	12	01	31-32	FATHER'S EDUCATION 10. none 20. elementary school 30. high school 35. nursing school/hospital 40. college 45. technical institute 50. university 60. other 00. don't know 99. no response
19	13	01	33-34	FATHER'S YEARS OF SCHOOLING 00. don't know 99. no response
20	14	01	35-36	MOTHER'S EDUCATION code same as variable 18
21	15	01	37-38	MOTHER'S YEARS OF SCHOOLING 00. don't know 99. no response
22	16	01	39-42	FATHER'S OCCUPATION see Appendix for codes 0000. don't know 9999. no response
23	17	01	43-46	MOTHER'S OCCUPATION see Appendix for codes 8888. housewife 0000. don't know 9999. no response
24	18	01	47-48	GRADE IN SCHOOL 99. no response
25	19	01	49	PRESENT PROGRAM IN SCHOOL 1. 5 year program 2. 4 year program 3. other 9. no response

26	20	01	50-51	WHO HELPED YOU TO DECIDE PROGRAM 1. parents 2. other relatives 3. teacher 4. principal or vice-principal 5. guidance counsellor 6. friends 7. other 8. no one helped me 9. multiple responses 99. no response
27	21	01	52	AVERAGE MARK 1. A 80%+ 2. B 70%-79% 3. C 60%-69% 4. D 50%-59% 5. E below 50% 9. no response
28	22	01	53	FRIENDS CONTINUING EDUCATION 1. none 2. a few 3. about half 4. most 5. all 9. no response
29	23	01	54-55	EDUCATIONAL ASPIRATIONS 10. work 20. apprenticeship training 30. institute of technology 40. college 50. university 60. other 08. don't know 99. no response
30	24	01	56-57	EDUCATIONAL EXPECTATIONS code same as variable 29
31	25	01	58-59	AREA OF STUDY 10. computer science 20. social work 30. journalism 40. electrical/technical 50. physiotherapy/nursing 60. education 70. law & social sciences 80. arts & languages 90. other 00. undecided 01. not continuing 99.no response

32	26	01	60-61	POST-SECONDARY GUIDANCE 01. parents 02. other relatives 03. teacher 04. guidance counsellor 05. principal or vice-principal 06. friends 07. other 08. no one helped me 09. not continuing 00. multiple responses 99. no response
33	27	01	62	SCHOOL ABILITY CONCEPT 1. much better than average 2. about average 3. average 4. below average 5. much worse than average 9. no response
34	28	01	63	UNIVERSITY ABILITY 1. most definitely 2. more than likely 3. maybe 4. not likely 5. most definitely not 9. no response
35	29	01	64	RANK AT UNIVERSITY code same as variable 33
36	30	01	65	COMPLETE ADVANCED DEGREE code same as variable 34
37	31	01	66	ABILITY FOR SCHOOL WORK code same as variable 33
38	32	01	67	MARK THIS YEAR code same as variable 33
39	33	01	68-71	OCCUPATIONAL ASPIRATIONS see Appendix for codes 0000. undecided 9999. no response
40	34	01	72-75	OCCUPATIONAL EXPECTATIONS see Appendix for codes 0000. undecided 8888. housewife 9999. no response
41	35	01	76	CAREER CERTAINTY 1. very sure 2. fairly sure 3. half and half 4. not too sure 5. not very sure at all 9. no response

42	36	01	77	JOB ASSET 1 0. communication 1. good learner/education 2. asset job related 3. high motivation 4. personality/physical ability 5. ability/experience 8. other 9. no response
43	36	01	78	JOB ASSET 2 code same as variable 42
44	37	01	79	JOB LIMITATION 1 0. sight/physical disability 1. personality traits 2. low motivation 3. poor mental ability/confidence 4. job related ie. references 8. transportation 9. none/no
45	37	01	80	JOB LIMITATIONS 2 code same as variable 44
46	38	02	1	TEENAGE PROBLEMS PRODUCE GOOD 1. always 2. often 3. sometimes 4. rarely 5. never 9. no response
47	39	02	2	BECOME ANYTHING IF NOT DISABLED 1. strongly agree 2. agree 3. maybe 4. disagree 5. strongly disagree 9. no response
48	40	02	3	SOCIALLY SELF-CONSCIOUS code same variable 46
49	41	02	4	EDUCATIONAL CHANCES SMALL code same as variable 45
50	42	02	5	CAREER CHANCES SMALL code same as variable 45
51	43	02	6	HANDICAP A BLESSING IN DISGUISE code same as variable 45
52	00	02	7-9	SURVEY I. D.

APPENDIX C

RAW DATA